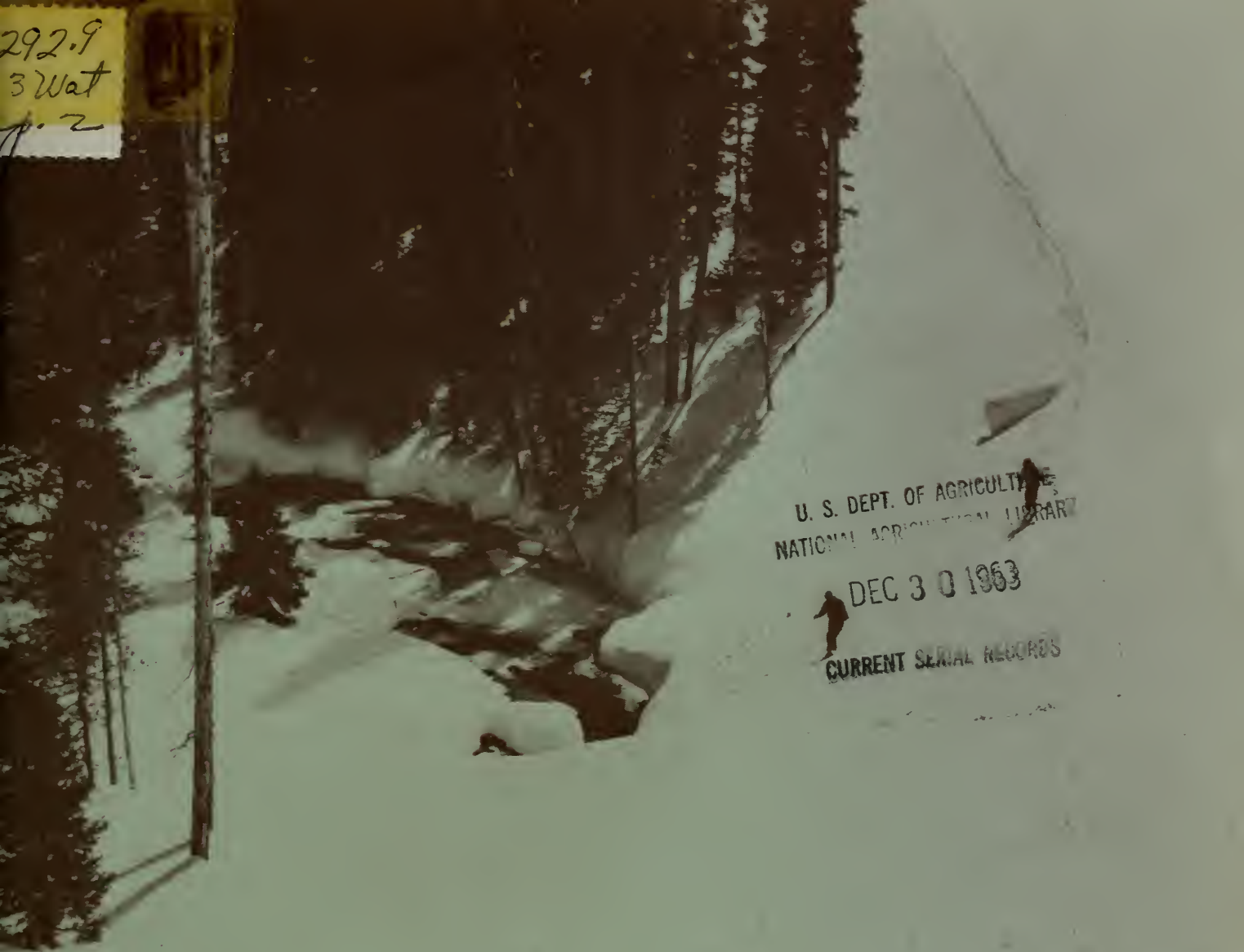


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WATER SUPPLY OUTLOOK
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
for
IDAHO

UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE.
and
IDAHO STATE RECLAMATION ENGINEER

Data included in this report were obtained by the agency named above in cooperation with the Comptroller of Water Rights of British Columbia, and Federal, State and private organizations listed on the last page of this report.

||||||| AS OF |||||
MAY 1, 1963

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Water Supply Outlook Reports:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from advance estimates of the streamflow.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, up to 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

Streamflow forecasts are obtained by a comparison of total or maximum snow accumulation, as measured by snow water equivalent, to the subsequent spring and summer or snowmelt season runoff over a period of years. The snow water equivalent measured in selected snow courses provides most of the index to the streamflow forecast for the following season. More accurate forecasts are usually obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast procedure. Early season forecasts assume average climatic conditions through the snowmelt season.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions. Soil Conservation Service Reports may be secured from Water Supply Forecasting Unit, Soil Conservation Service, P.O. Box 4170, Portland 8, Oregon.

PUBLISHED BY SOIL CONSERVATION SERVICE

<u>REPORTS</u>	<u>ISSUED</u>	<u>LOCATION</u>	<u>COOPERATING WITH</u>
RIVER BASINS			
WESTERN UNITED STATES	MONTHLY (FEB.-MAY)	PORTLAND, OREGON	ALL COOPERATORS
STATES			
ALASKA	MONTHLY (MAR.-MAY)	PALMER, ALASKA	ALASKA S.C.D.
ARIZONA	SEMI-MONTHLY (JAN.15 - APR.1)	PHOENIX, ARIZONA	SALT R. VALLEY WATER USERS ASSOC. ARIZ. AGR. EXP. STATION
COLORADO AND NEW MEXICO	MONTHLY (FEB.-MAY)	FORT COLLINS, COLORADO	COLO. STATE UNIVERSITY COLO. STATE ENGINEER N. MEX. STATE ENGINEER
IDAHO	MONTHLY (JAN.-JUNE)	BOISE, IDAHO	IDAHO STATE RECLAMATION ENGINEER
MONTANA	MONTHLY (JAN.-JUNE)	BOZEMAN, MONTANA	MONT. AGR. EXP. STATION
NEVADA	MONTHLY (JAN.-MAY)	RENO, NEVADA	NEVADA DEPT. OF CONSERVATION AND NATURAL RESOURCES - DIVISION OF WATER RESOURCES
OREGON	MONTHLY (JAN.-JUNE)	PORTLAND, OREGON	OREG. STATE UNIVERSITY OREGON STATE ENGINEER
UTAH	MONTHLY (JAN.-JUNE)	SALT LAKE CITY, UTAH	UTAH STATE ENGINEER
WASHINGTON	MONTHLY (FEB.-JUNE)	SPOKANE, WASHINGTON	WN. STATE DEPT. OF CONSERVATION
WYOMING	MONTHLY (FEB.-JUNE)	CASPER, WYOMING	WYOMING STATE ENGINEER

PUBLISHED BY OTHER AGENCIES

<u>REPORTS</u>	<u>ISSUED</u>	<u>AGENCY</u>
BRITISH COLUMBIA	MONTHLY (FEB.-JUNE)	WATER RIGHTS BR., DEPT. OF LANDS, FORESTS AND NATURAL RESOURCES, PARLIAMENT BLDG., VICTORIA, B.C., CANADA
CALIFORNIA	MONTHLY (FEB.-MAY)	CALIF. DEPT. OF WATER RESOURCES, P.O. BOX 388, SACRAMENTO, CALIF.

WATER SUPPLY OUTLOOK
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
for
IDAHO

Report prepared by

MORLAN W. NELSON Snow Survey Supervisor

and

J. ALDEN WILSON Asst. Snow Survey Supervisor

SOIL CONSERVATION SERVICE
SNOW SURVEY SECTION
BOX 1247, BOISE, IDAHO

Issued by

LEE T. MORGAN
STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE
BOISE, IDAHO

GEORGE N. CARTER
STATE RECLAMATION ENGINEER
DEPARTMENT OF RECLAMATION
BOISE, IDAHO

WATER SUPPLY OUTLOOK for IDAHO



GENERAL SUMMARY - MAY 1, 1963

The water supply outlook for Idaho has improved on all streams and rivers. Heavy snowfall and precipitation during April eliminated one irrigation and added snow-water at the high elevations throughout the mountains. The main stem of the Snake, Boise, Payette and Owyhee Rivers with good storage facilities, are assured of near normal supplies for 1963. The smaller streams and rivers, without adequate storage facilities, are forecast to have water shortages this season unless unusually heavy rains continue through May and June. Streamflow forecasts for the May through September period vary from 19% of normal on the Owyhee River to 82% on Henry's Fork. These forecasts are still well below normal but a definite increase from April 1.

The combination of complex storm patterns, variable soil moisture conditions, generally warm temperatures, and widely fluctuating streamflow has produced a most unusual winter season.

At the high elevation snow courses, snow-water increased significantly during April when it would ordinarily decrease. This is most unusual but very welcome in 1963 after several consecutive months of extremely light snowfall. Several of these courses, near the tops of the mountains, had more snowfall in April than any other month this season.

U. S. Geological Survey preliminary figures show low streamflow during April. Snow cover at the middle and low elevations disappeared and precipitation at

most stations was over 200% of normal, but proportionate runoff did not result. This is explained in part by the dry soil conditions and cool temperatures prevailing on the watersheds prior to and during the heavy storms of the past month.

Soils at middle and low elevations have more moisture content now, and further rains could add slightly to the water supply predictions.

The forecasts do not reflect the snow cover measured on the high elevation courses at this time because the dry soil beneath the snow pack is expected to absorb an unusually high amount of melting snow-water.

Water users in general are encouraged to use their water supplies conservatively and carry-over as much as possible into the 1964 season.

TIMING IRRIGATIONS

by

Meador H. Wilkins, State Conservation Engineer
Soil Conservation Service

The right amount of water at the right time is what produces quality and quantity crops. There is a critical time for each crop when too low a moisture level will lower one or both quality and quantity. Very few crops will respond favorably to too excess water.

Alfalfa and grass for forage will tolerate a wide fluctuation in moisture level. They have a luxury use of water which means slightly more growth at high levels but with very poor efficiency of water use. Low moisture levels reduce quantity but do not permanently injure most grasses. Moisture levels for grass seed production, however, are similar to grain. A high moisture level at bloom stage may cause blooms to drop and a poor set of seed will result. High moisture levels are needed at the joint, boot, and soft dough stages.

The critical time for corn to be maintained at a high moisture level is from tassel to silk stage. High moisture level means 50% or more of field capacity, not saturated. Saturation of soil stops root growth and slows top growth.

Sugar beets require a high moisture level during germination, but can tolerate low moisture levels late in the season. Potatoes are our Prima Donna crop requiring a high, very even moisture level from planting time almost to harvest. Letting tubers get dry or allowing moisture levels to fluctuate when they are forming will produce knobby and deformed potatoes.

A review of your Conservation Plan with your Work Unit Conservationist may help you save some water dollars.

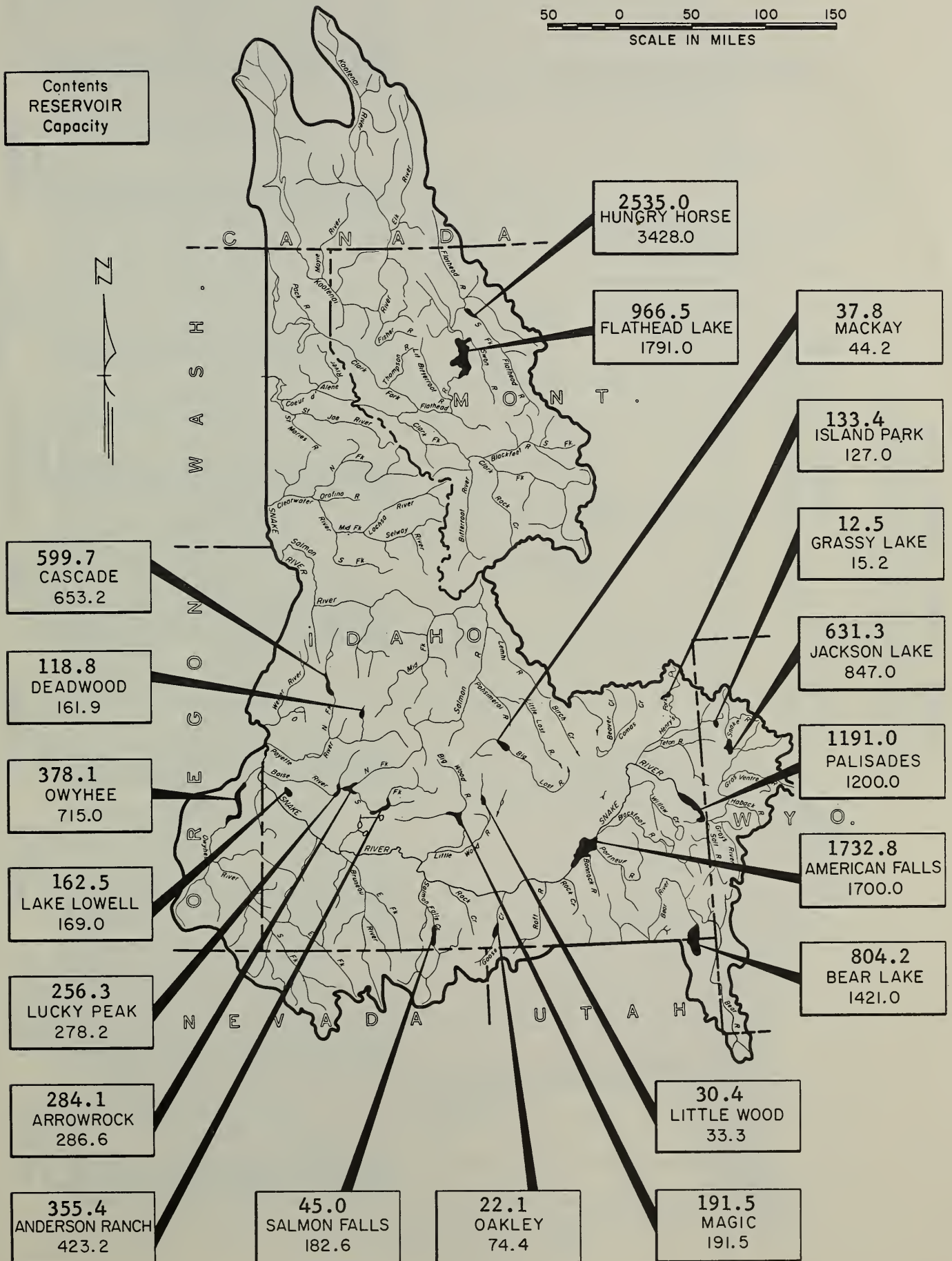
RESERVOIR STORAGE

USABLE CONTENTS (1,000 Acre Feet)

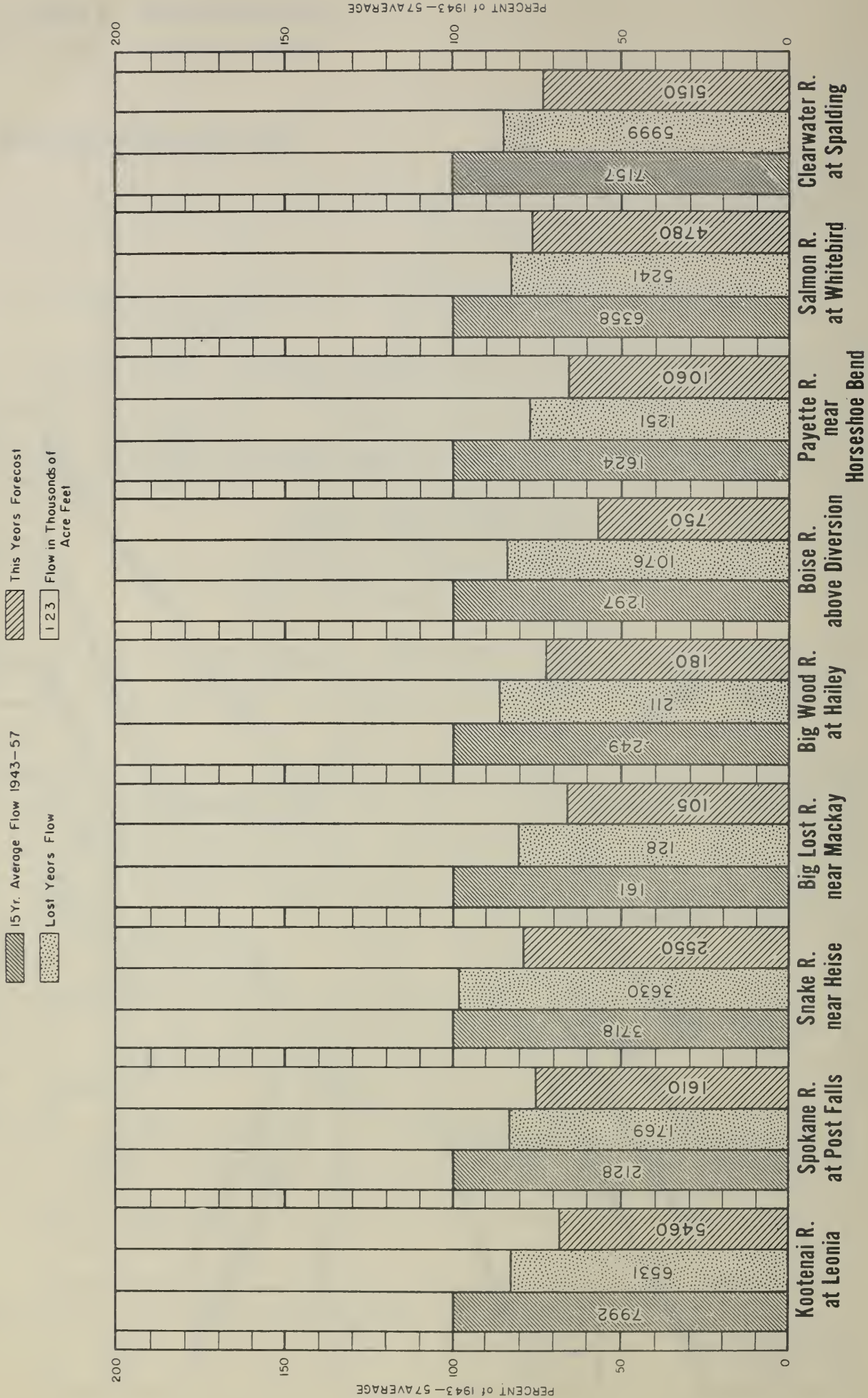
MAY 1, 1963

50 0 50 100 150
SCALE IN MILES

Contents
RESERVOIR
Capacity






WATER SUPPLY FORECASTS MAY THROUGH SEPTEMBER PERIOD Based on Snow Surveys made on approximately MAY 1, 1963

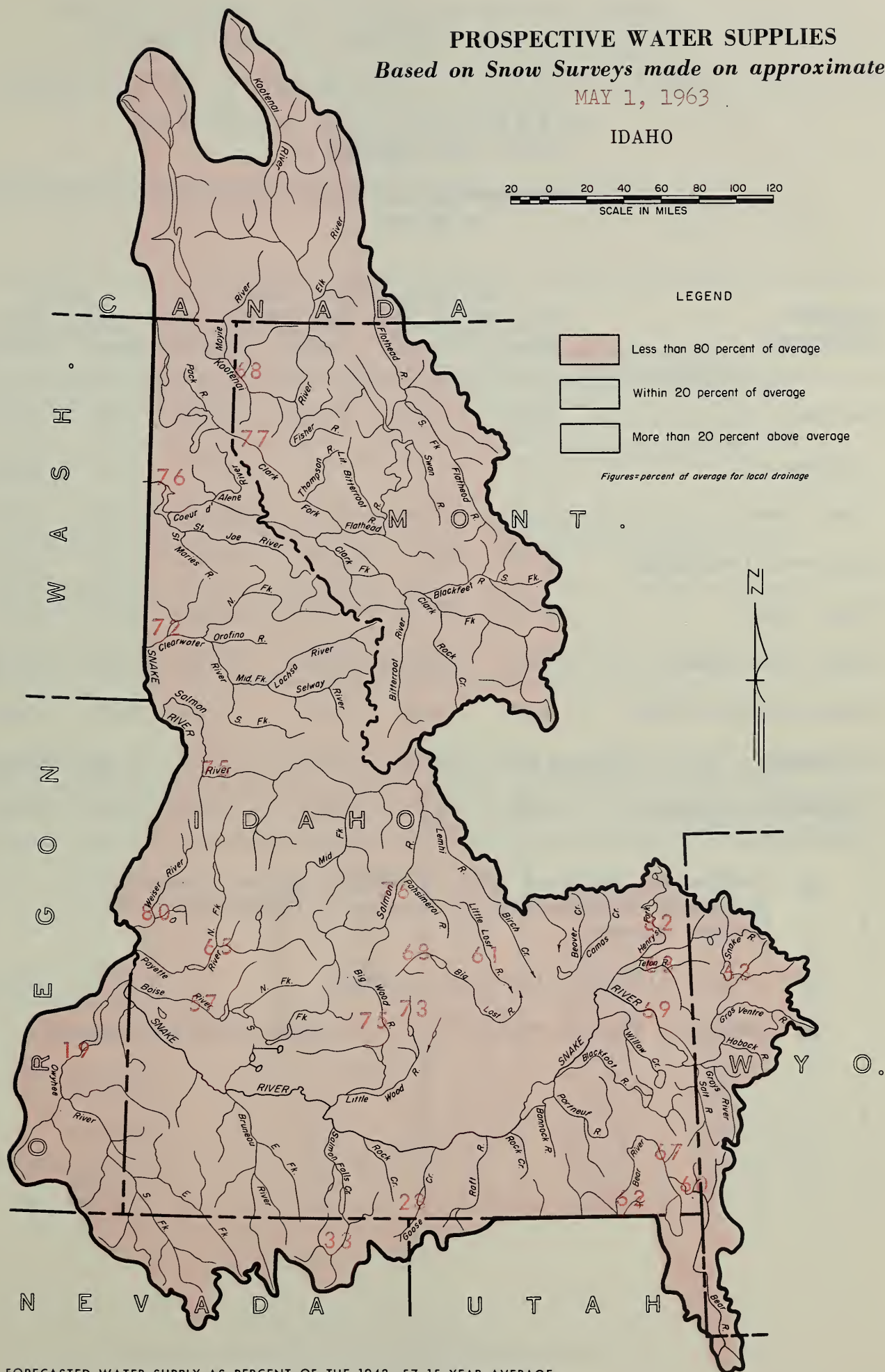


MAY 1, 1963

A horizontal scale bar with alternating black and white segments. Numerical labels are placed above the bar at intervals of 20, starting from 20 on the left and ending at 120 on the right. The text "SCALE IN MILES" is centered below the bar.

	Less than 80 percent of average
	Within 20 percent of average
	More than 20 percent above average

Figures=percent of average for local drainage



FORECASTED WATER SUPPLY AS PERCENT OF THE 1943-57 15 YEAR AVERAGE

VALLEY PRECIPITATION 1/Division Averages and Departures
In Inches

DRAINAGE DIVISIONS	Fall		Winter		Spring	
	Sep.-Nov. - 1962		Dec. '62-Mar. '63		April 1963	
	Avg. <u>2/</u>	Dep. <u>3/</u>	Avg. <u>2/</u>	Dep. <u>3/</u>	Avg. <u>2/</u>	Dep. <u>3/</u>
Kootenai	1.87	-0.62	8.12	-2.46	1.53	+0.08
Flathead	2.01	+0.23	7.62	-0.03	1.25	-0.25
Clark Fork	0.74	+0.04	3.37	-0.11	0.65	-0.22
Pend Oreille-Spokane	4.12	+0.84	11.89	-2.49	2.60	+0.51
Upper Snake	2.26	+0.28	6.23	-0.84	3.24	+1.88
Snake River Plain	0.94	+0.21	3.08	-0.54	1.92	+1.10
Salmon-Payette-Boise	2.29	+0.08	6.49	-2.95	2.53	+1.08
Clearwater	2.31	-0.12	9.16	-1.72	3.35	+1.00
Southeastern Oregon	0.98	+0.07	3.25	-1.24	2.05	+1.20

1/ Preliminary analysis by U. S. Weather Bureau from data furnished by Meterological Service of Canada and U. S. Weather Bureau.

2/ 15-year (1943-1957) division average.

3/ Departure from 15-year (1943-57) drainage division average.

WATER SUPPLY OUTLOOK and SNOW SURVEYS KOOTENAI, PEND OREILLE, SPOKANE, PALOUSE, CLEARWATER, SALMON WATERSHEDS IDAHO

as of

MAY 1, 1963

GENERAL SUMMARY

The outlook for streamflow during the spring and summer season in this area is still far below normal, although slightly improved on some rivers. Precipitation and snowfall during April was near normal for most rivers, but generally above average on the Salmon River. Snow cover increased in relation to normal significantly at the higher elevations, but all of the low and middle elevation snow has melted. The snow line is high for this time of the year and south slopes are bare to the tops of the mountains. On the north slopes, however, at high elevations, snow-water is near normal. This area of snow cover makes up a very small percentage of the drainage basins.

Soil moisture conditions went up at the middle and lower elevations but has not yet changed at the high snow courses where the major melt has not started. The relatively dry soil conditions at high elevations are still expected to absorb an unusually high amount of snow-water.

Streamflow during the month was well below average in spite of the heavy precipitation and snowfall. This is explained by cool temperatures and dry soil conditions.

Rainfall that occurred during April did eliminate one irrigation. The major rivers in the area have near average supplies of water by using stored water. The smaller streams, without adequate storage facilities, are forecast to have below normal supplies for 1963.

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair", "Average" or "Excellent" and STREAMFLOW FORECASTS (1,000 Ac. Ft.) ^a

STREAM and/or FORECAST POINT	OUTLOOK	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE
Kootenai River at Leonia ^o	Good	5460	May-Sept.	7994	68
		3600	May-June	5341	67
Clark Fork at Whitehorse Rapids ^{c o}	Good	9280	May-Sept.	12144	77
		8378	May-July	10975	77
		6970	May-June	9027	77
Priest River nr. Priest River ^d	Fair	550	May-July	729	75
Spokane River at Post Falls ^e	Fair	1610	May-Sept.	2127	76
Coeur d'Alene River nr. Cataldo		650	May-Sept.	842	77
		610	May-July	783	78
St. Joe River at Calder		770	May-Sept.	1051	73
		725	May-July	983	74
Clearwater River at Spalding	Fair	5150	May-Sept.	7157	72
at Kamiah		3050	May-Sept.	4226	72
		2890	May-July	4011	72
nr. Ahsahka		1800	May-Sept.	2505	72
		1690	May-July	2312	73
Salmon River at Whitebird	Fair	4780	May-Sept.	6358	75
nr. Challis		660	May-Sept.	873	76
nr. Challis		570	May-July	754	76

Report Prepared by

M. W. NELSON AND J. ALDEN WILSON

U. S. DEPARTMENT OF AGRICULTURE --- SOIL CONSERVATION SERVICE

P. O. BOX 1247, BOISE, IDAHO

HISTORICAL DATA (Kootenai River) Data obtained from U.S. Geological Survey records.

YEAR	SEASONAL VOLUMES at LEONIA STREAMFLOW (1,000 Acre-Ft.)			RIVER FLOOD STAGES			
	APR - SEPT.	APR JUNE	MAY - JUNE	LEONIA GAGE HEIGHT	BONNERS FERRY PEAK C.F.S.	MAX. DISCH. C.F.S.	GAGE HEIGHT
1943	9,255	6,191	4,333	114.12	58,000	65,000	24.99
1944	4,136	2,818	2,505	108.55	30,000	31,100	14.02
1945	6,050	4,060	3,802	114.07	57,700	61,300	24.04
1946	9,510	6,903	5,834	116.65	80,500	77,000	30.41
1947	9,100	6,823	5,629	117.31	88,200	82,500	31.31
1948	11,073	8,440	7,508	123.15	139,000	123,000	35.32
1949	6,899	5,366	4,316	116.68	81,700	75,200	30.84
1950	9,965	6,677	5,890	118.21	90,100	87,100	33.98
1951	10,807	7,101	6,001	117.04	76,300	83,800	31.86
1952	8,454	6,096	4,659	114.87	63,000	69,700	26.30
1953	8,402	5,600	5,024	116.51	74,700	76,700	30.21
1954	12,213	7,583	6,878	120.81	104,000	132,000	35.55
1955	8,444	5,377	4,996	117.30	79,300	86,200	31.80
1956	11,494	8,755	7,308	121.65	115,000	127,000	37.09
1957	7,798	6,074	5,468	115.93	71,000	78,300	28.81

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
		DEPTH	* CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
Brown	3100	36	6.7	5/1	4.6	4.2	--
Fohl	3450	48	13.3	5/1	8.2	8.0	--
Fourth of July Summit	3100	48	11.6	4/29	8.0	--	--
Lookout	5250	48	11.0	4/29	6.3	--	--
Midway	2200	36	6.1	5/1	4.0	3.7	--
*Total soil moisture. Not comparable to last year's published data.							

COMPARISON of SNOW COVER

RIVER BASIN WATERSHED	NO. OF COURSES AVERAGED	THIS YEARS SNOW WATER EXPRESSED AS PERCENT OF :	
		LAST YEAR	AVERAGE b

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943 - 57 AVERAGE
Hungry Horse	3428.0	2535.0	2321.0	2048.0 **
Flathead	1791.0	966.5	1119.0	936.0
Pend Oreille	1561.0	1043.0	935.4	836.8
Coeur d'Alene	238.5	181.8	370.8	--

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Above Gilmore +	8200	4/29	35	12.0	--	--
Above Greer	1240	4/30	0	0.0	0.0	--
Benton Meadow	2344	4/29	0	0.0	0.0	0.0*
Benton Spring	4900	4/29	19	7.8	12.0	17.8
Big Creek Summit	6608	4/30	73	27.6	31.6	36.5*
Boulder Creek	5500	4/25	31	11.3	11.1	--
Cayuse Airstrip	3700	4/30	0	0.0	0.0	1.4*
Chapman Creek	4220	4/30	0	0.0	0.0	0.2*
Coolwater Mountain	6200	4/30	56	25.0	17.8	--
Copes Camp +	7500	4/29	24	8.2	--	--
Copper Ridge	4800	4/29	24	9.0	23.5	27.8

(*) Estimated 1943-57 average. (**) Average for period of record. (▲) Affected by dike breakage downstream. (o) Forecasts made by P. E. Farnes, SCS, Bozeman, Montana. () Aerial observation, water content estimated. (a) Assuming normal meteorological conditions. (b) Actual or estimated 1943-57 average. (c) Observed flow corrected for storage in Flathead Lake and Hungry Horse. (d) Observed flow corrected for storage in Priest Lake. (e) Observed flow corrected for storage in Coeur d'Alene Lake and diversions by Spokane Valley Farms Company and Rathdrum Prairie Canals.

25 0 25 50 75 100
SCALE IN MILES



SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Crater Meadows	6100	4/28	82	36.7	--	--
Crumarine Creek	3500	4/27	0	0.0	--	0.0*
Deadwood Summit +	7000	5/5	101	38.2	--	49.7*
East Twin	4000	4/27	0	0.0	0.0	0.0*
Elk Butte	5550	4/28	48	19.5	--	--
Fish Lake Airstrip	5000	4/30	70	32.5	35.0	46.1*
Forty-nine Meadows	5000	4/28	41	17.0	24.4	34.2*
Fourth of July Summit	3100	4/29	0	0.0	0.0	--
Galena Summit	8795	4/30	65	23.6	19.5	24.5*
Granite Peak	6000	4/28	83	36.4	--	--
Greer Summit	3000	4/30	0	0.0	0.0	--
Hemlock Butte	5500	4/30	87	38.5	49.2	--
Howard Creek	3500	4/27	0	0.0	0.0	0.0*
Johns Creek	3810	4/30	0	0.0	0.0	0.0*
Lolo Pass	5230	4/29	45	19.6	33.7	29.7*
Lookout	5250	4/29	62	25.2	30.8	34.0*
Lost Lake	6000	4/28	101	44.2	--	--
Lower Sands Creek	3400	4/30	6	2.2	14.1	12.6*
Midway	2200	4/30	0	0.0	0.0	--
Mill Creek Summit	8870	4/29	59	20.2	--	--
Morgan Creek	7580	4/28	39	11.9	--	--
Moscow Mountain	4800	4/27	13	4.9	5.9	12.7*
Orogrande Mountain	7800	4/30	104	41.9	38.2	--
Outlaw Creek	3750	4/30	T	T	6.2	--
Pahsimeroi +	7600	4/29	0	0.0	--	--
Pierce Ranger Station	3171	4/30	0	0.0	0.0	1.8*
Rock Flat Summit	5200	4/29	22	8.5	10.9	--
Schwartz Lake +	8500	4/29	48	16.4	--	--
Shanghai Summit	4600	4/30	23	9.5	21.0	24.0*
Sherwin	3200	5/1	0	0.0	3.0	--
Smith Creek	4800	5/1	76	30.7	39.0	46.3*
Squaw Meadow +	5800	4/30	63	23.8	32.6	38.2*
Twin Peaks +	9190	4/29	68	23.3	--	--
Vienna Mine +	8900	4/30	86	31.2	32.9	36.6*
West Twin	4200	4/27	0	0.0	0.0	0.1*
Whitebird Summit	4400	4/30	0	0.0	0.0	--
Williams Creek Summit	7800	4/30	47	15.0	--	--

WATER SUPPLY OUTLOOK and SNOW SURVEYS BOISE, PAYETTE, WEISER, BRUNEAU, OWYHEE WATERSHEDS IDAHO

as of

MAY 1, 1963

GENERAL SUMMARY

The water supply outlook for this area has improved on all streams and rivers. Heavy snowfall and precipitation during April eliminated one irrigation and added snow-water at the high elevations throughout the mountains. The Boise, Payette and Owyhee Rivers, with good storage facilities, are assured of near normal supplies for 1963. The smaller streams and rivers without adequate storage facilities, however, are forecast to have water shortages for this season unless unusually heavy rains continue through May and June.

Soil moisture decreased slightly during the month of April in spite of the snow-melt and precipitation. This is due in part to an ice layer which has been reported under most of the snow courses. Apparently melting snow-water ran over the soil in many places without changing moisture conditions beneath the ice layer. The soils are expected to absorb a considerable portion of the snow pack still remaining at the high elevations, and thereby reduce streamflow below what is indicated by the snow courses measurements.

Stored water on the Boise and Payette Rivers is excellent. The Owyhee Reservoir is below normal but can deliver near normal water supplies for 1963. Water users in general should use water conservatively and carry-over as much as possible into the 1964 season.

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair", "Average" or "Excellent" and STREAMFLOW FORECASTS (1,000 Ac. Ft.) ^a

STREAM and/or FORECAST POINT	OUTLOOK	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE
Boise River nr. Twin Springs	--	400	May-Sept.	633	63
		365	May-July	579	63
nr. Boise <i>c</i>	Good	750	May-Sept.	1309	57
South Fork at Anderson Dam <i>d</i>	--	245	May-Sept.	511	48
Payette River nr. Horseshoe Bend <i>e</i>	Good	1060	May-Sept.	1624	65
North Fork at Cascade <i>f</i>	--	340	May-Sept.	499	68
nr. Banks	--	430	May-Sept.	631	68
		410	May-July	597	69
South Fork nr. Banks <i>g</i>	--	555	May-July	869	64
Weiser River above Crane Creek <i>h</i>	Good	230	May-Sept.	286	80
Bruneau River nr. Hot Springs	Fair	75	May-Sept.	167**	45
Lake Owyhee net Inflow <i>i</i>	--	40	May-Sept.	214	19
	--	38	May-July	196	19
Snake River at Weiser	--	3250	May-Sept.	5835	56

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
		DEPTH	* CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
Bad Bear	5500	60	6.3	4/30	4.4	--	--
Bogus Basin Road	4830	48	7.1	5/1	5.6	5.5	5.3
Moore's Creek Summit	6100	60	8.8	4/30	6.1	--	--
*Total soil moisture. Not comparable to last year's published data.							

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Atlanta Summit +	7500	5/4	80	32.4	32.3	36.0*
Bad Bear	5500	4/30	0	0.0	T	--
Bear Creek + Nev.	7800	4/29	56	18.6	25.1	21.2*
Bennett Mountain	6650	4/30	15	6.4	--	--
Big Bend Nev.	6700	4/30	T	T	0.0	1.6*
Big Creek Summit	6608	4/30	73	27.6	31.6	36.5*
Bogus Basin	6120	5/1	33	13.7	18.7	23.8
Bogus Basin Road	5360	5/1	0	0.0	0.0	--
Boulder Creek	5500	4/25	31	11.3	11.1	--
Couch Summit +	7000	4/30	28	10.2	9.2	14.5*
Cozy Cove	5900	4/29	4	2.0	5.7	9.2*
Crawford Ranger Station	4800	4/30	0	0.0	0.0	0.0*
Deadman Gulch	5600	5/1	1	0.4	--	10.9*
Deadwood Airstrip	5440	4/29	0	0.0	1.7	--
Deadwood Dam	5290	4/29	3	1.5	10.0	13.1*
Deadwood Summit +	7000	5/5	101	38.2	--	49.7*
Dixie Hill	5230	4/30	0	0.0	--	--
Dollarhide Summit +	8700	4/30	68	27.5	17.6	27.8*
Fry Canyon Nev.	6700	4/30	T	T	0.0	1.3*
Galena	7500	4/30	39	14.2	7.8	14.0*
Galena Summit	8795	4/30	65	23.6	19.5	24.5*
Goat Creek Nev.	8800	4/29	56	18.9	21.2	19.9*
Gold Creek Nev.	6600	4/30	0	0.0	0.0	0.0*
Greenfield Flat +	7370	4/30	85	32.1	--	--
Hummingbird Springs + Nev.	8945	4/29	68	22.6	31.3	25.2*
Jacks Peak Nev.	8420	4/29	81	24.0	35.1	26.8*
Lower Jack Creek	6800	4/29	9	2.2	0.0	0.0*
Mica Ridge +	6800	4/30	61	23.1	--	--
Moore's Creek Summit	6100	4/30	40	16.2	24.2	29.9
Mount Baldy	9000	5/1	51	17.0	19.1	21.1*
Pole Creek Ranger Station Nev.	8330	4/29	60	20.0	23.9	22.9*
Red Point + Nev.	7940	4/29	26	8.7	8.7	--
Rock Flat Summit	5200	4/29	22	8.5	10.9	--
Rodeo Flat Nev.	6800	4/30	T	T	0.0	1.7*
Soldier Ranger Station	6100	4/30	0	0.0	--	--
South Mountain	6340	4/30	1	0.4	--	3.5*
Squaw Flat +	6230	4/30	36	13.6	--	--
Squaw Meadow +	5800	4/30	63	23.8	32.6	38.2*
Taylor Canyon Nev.	6200	4/29	6	1.0	0.0	0.0*
Trinity Mountain +	7400	4/30	92	37.3	41.2	43.3*
Upper Jack Creek Nev.	7250	4/29	18	5.3	0.0	4.0*
Vienna Mine +	8900	4/30	86	31.2	32.9	36.6*

*Estimated 1943-57 average. (o) Forecast made by W. T. Frost, S.C.S., Portland, Oregon. (+) Aerial observation, water content estimated. (a) Assuming normal meteorological conditions. (b) Actual or estimated 1943-57 average. (c) Observed flow corrected for storage in Arrowrock, Anderson Ranch and Lucky Peak. (d) Observed flow corrected for change of storage in Anderson Ranch Reservoir. (e) Observed flow corrected for change of storage in Cascade & Deadwood Reservoirs. (f) Observed flow corrected for change of storage in Cascade Reservoir. (g) Observed flow corrected for change of storage in Deadwood Reservoir. (h) Observed flow of Weiser River nr. Weiser minus the observed flow of Crane Creek at mouth. (i) From U.S.B.R. records of inflow. (**) 1944-1957 average.

BOISE, PAYETTE, WEISER, BRUNEAU, OWYHEE WATERSHEDS



RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943 - 57 AVERAGE
Anderson	423.2	355.4	209.7	215.6
Arrowrock	286.6	284.1	256.9	222.3
Lucky Peak	278.2	256.3	171.8	--
Lake Lowell	169.0	162.5	157.8	160.2
Cascade	653.2	599.7	271.3	--
Deadwood	161.9	118.8	83.9	99.4
Owyhee	715.0	378.1	391.9	617.5

WATER SUPPLY OUTLOOK and SNOW SURVEYS

SNAKE, BIG WOOD, LITTLE WOOD, RAFT, GOOSE CREEK, SALMON FALLS CREEK WATERSHEDS

IDAHO

as of

MAY 1, 1963

GENERAL SUMMARY

The streamflow outlook for all rivers in this area improved significantly during April although there are still several streams forecast to have critically low water supplies. Reservoir-stored water on the Snake and other large rivers is excellent and can make up for expected streamflow deficiency. The smaller rivers and streams, without good storage facilities or carry-over water, face shortages for the 1963 season unless good rains occur in May and June. The snow pack increased in relation to normal at the higher elevation snow courses but disappeared almost entirely from the middle and low elevation courses. The heavy precipitation and snowfall did not produce good streamflow for the month. This can be explained in part by the dry soil and cool temperatures which prevailed.

Soil moisture at the low and middle elevations increased during April although the soil is still well below water-holding capacity. At the high soil moisture sites very little change took place in April because the snow did not melt. The relatively dry soil at higher elevations is expected to absorb an unusually high amount of water during the major snow-melt.

Reservoir-stored water on the major rivers with good storage facilities can insure near normal deliveries for 1963. However, several of the smaller rivers, with inadequate or no storage, face severe water shortages for 1963. Water in general should be used conservatively to produce the most from available supplies and increase carry-over for 1964.

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair", "Average" or "Excellent" and STREAMFLOW FORECASTS (1,000 Ac. Ft.) ^a

STREAM and/or FORECAST POINT	OUTLOOK	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE
Snake River at Moran (Natural Flow) ^o	--	556	May-Sept.	881	63
nr. Heise c	Good	2550	May-Sept.	3718	69
nr. Blackfoot d	--	2600	May-July	3735	70
Big Wood River at Hailey e	Fair	180	May-Sept.	249	72
(Corrected for Diversions)		225	May-Sept.	302	75
Little Wood River above High Five Creek	Fair	45	May-Sept.	62	73
Goose-Trapper Creeks inflow to Oakley Res.	Poor	5.5	May-Sept.	20	28
Salmon Falls Creek nr. San Jacinto	Poor	18	May-Sept.	55	33
		17	May-July	53	32
Cedar Creek Inflow	Poor	2.0	May-Sept.	--	--

Report Prepared by

M. W. NELSON AND J. ALDEN WILSON

U.S. DEPARTMENT OF AGRICULTURE --- SOIL CONSERVATION SERVICE

P.O. BOX 1247, BOISE, IDAHO

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
		DEPTH	* CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
Badger Gulch	6660	36	7.0	4/29	4.5	7.4	--
Conner Pass	5700	36	9.8	4/29	8.9	5.0	--
Galena	7300	48	8.8	4/30	5.6	--	--
Galena Summit	8795	48	5.8	4/30	1.8	--	--
Garfield Ranger Station	6554	36	5.2	4/25	5.2	5.2	5.6
Howell Canyon	8000	46	11.5	4/29	3.7	--	--
Niggerhead	5450	36	10.1	4/26	9.8	9.6	9.3
Trapper Creek	5300	36	10.0	4/29	5.4	6.4	--
*Total soil moisture. Not comparable to last year's published data.							

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Badger Gulch	6660	4/29	4	2.2	2.4	--
Bear Creek + Nev.	7800	4/29	56	18.6	25.1	21.2*
Bennett Mountain	6650	4/30	15	6.4	--	--
Bostetter Rgr. Sta. +	7500	4/30	11	3.5	--	--
Boy Scout Camp +	7600	4/30	32	10.7	--	--
Cedar Creek +	7000	4/29	8	2.5	T	2.9*
Clear Creek Meadows + Utah	9050	4/30	69	23.0	--	--
Couch Summit +	7000	4/30	28	10.2	9.2	14.5*
Deadline	6900	4/27	40	12.4	11.4	20.8*
Dollarhide Summit +	8700	4/30	68	27.5	17.6	27.8*
Galena	7500	4/30	39	14.2	7.8	14.0*
Galena Summit	8795	4/30	65	23.6	19.5	24.5*
Garfield Ranger Station	6554	4/25	13	5.4	0.0	1.0*
Goat Creek Nev.	8800	4/29	56	18.9	21.2	19.9*
Howell Canyon	8000	4/29	45	20.6	15.3	--
Hummingbird Springs + Nev.	8945	4/29	68	22.6	31.3	25.2*
Iron Mine Creek	6370	4/24	15	5.2	T	--
Magic Mountain	6700	4/27	31	9.9	10.6	16.4*
Mount Baldy	9000	5/1	51	17.0	19.1	21.1*
Muldoon	6300	4/26	2	0.8	0.0	0.0*
Pole Creek Ranger Station Nev.	8330	4/29	60	20.0	23.9	22.9*
Porcupine +	8350	4/30	45	16.3	13.4	--
Red Point + Nev.	7940	4/29	26	8.7	8.7	--
Shoshone Basin	5740	4/30	0	0.0	--	0.0*
Soldier Ranger Station	6100	4/30	0	0.0	--	--
Summit Springs +	8500	4/30	0	0.0	--	--
Swede Peak	7500	4/26	45	14.5	11.0	--
Telfer Ranch	6000	4/24	T	T	0.0	--
Vienna Mine +	8900	4/30	86	31.2	32.9	36.6*
Vi Pont + Utah	7650	4/30	21	7.0	--	--
Wilson Creek +	7500	4/29	22	7.3	--	--

*Estimated 1943-57 average. (+) Aerial observation, water content estimated. (a) Assuming normal meteorological conditions. (b) Actual or estimated 1943-57 average. (c) Observed flow corrected for storage in Jackson Lake and Palisades Reservoir. (d) Observed flow corrected for storage in Jackson Lake, Palisades, Island Park, Grassy Lake, Henry's Lake and diversions between Heise and Blackfoot. (e) Combined discharge at Big Wood River and Big Wood Slough. (**) 1949-1950 average.

SNAKE RIVER, BIG WOOD, LITTLE WOOD, RAFT, GOOSE CREEK, SALMON FALLS CREEK WATERSHEDS



RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943 - 57 AVERAGE
Jackson Lake	847.0	631.3	250.9	503.3
Palisades	1200.0	1191.0	985.2	--
American Falls	1700.0	1732.8	1700.0	1614.9
Magic	191.5	191.5	183.4	183.3
Little Wood	33.3	30.4	29.7	--
Fish Creek	13.0	10.8	11.3	--
Oakley	74.4	22.1	36.3	28.5
Salmon Falls	182.6	45.0	74.8	56.6
Cedar Creek	29.9	9.8	9.2	--



WATER SUPPLY OUTLOOK and SNOW SURVEYS UPPER SNAKE, BLACKFOOT, PORTNEUF, BEAR, MALAD WATERSHEDS IDAHO

as of

MAY 1, 1963

GENERAL SUMMARY

The water supply outlook in this area improved significantly during April as a result of unusually heavy snowfall and precipitation. Forecasts of reservoir inflow continue well below normal, however, stored water is now approaching average. At high elevation snow courses, snow cover increased in relation to normal. April snowfall on some courses was greater than any month this season. This is most unusual. In spite of melting snow cover at low elevations and heavy precipitation, streamflow was far below normal in April. This was probably due to the cool temperatures and generally dry soil conditions.

Soil moisture increased at the middle and lower elevations as a result of the rainfall and melting snow. At the high elevations, where the snow pack has not yet started to melt, soils are still dry and expected to absorb considerable water when the high elevation snow-melt begins.

Reservoir-stored water is excellent on the Snake and Blackfoot Rivers and can be used to overcome deficiencies in streamflow. The smaller rivers and streams in the area have an improved water supply outlook, but are forecast to have water shortages later in 1963.

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair", "Average" or "Excellent" and STREAMFLOW FORECASTS (1,000 Ac. Ft.) ^a

STREAM and/or FORECAST POINT	OUTLOOK	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE
Snake River nr. Heise <i>c</i>	Good	2550	May-Sept.	3718	69
nr. Blackfoot <i>d</i>		2600	May-July	3735	70
Blackfoot Reservoir Inflow	Fair	40	May-Sept.	--	--
Portneuf River at Topaz	Fair	25	May-Sept.	--	--
Bear River at Harer	Fair	142	May-Sept.	235	60
Cub River nr. Preston	Fair	29	May-Sept.	47	62
Montpelier Creek nr. Montpelier	Fair	7	May-Sept.	10.5	67

Report Prepared by

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U. S. DEPARTMENT OF AGRICULTURE --- SOIL CONSERVATION SERVICE

P. O. BOX 1247, BOISE, IDAHO

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
		DEPTH	*CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
Emigrant Summit	7350	36	8.2	4/26	3.4	4.2	--
Giveout Pass	7025	50	12.6	4/29	8.3	--	--
Jenson Ranch	6580	45	18.7	4/29	18.3	--	--
Lower Pebble	5800	36	7.6	4/29	6.1	6.9	--
Pebble Creek	6550	48	7.2	4/29	4.7	5.0	--
Strawberry Creek	5800	48	12.7	4/26	10.4	7.1	--
*Total soil moisture. Not comparable to last year's published data.							

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Christensen Ranch	5600	4/29	0	0.0	0.0	0.0*
Cub River Ranger Station	5400	4/29	0	0.0	0.0	0.0*
Dry Basin +	7900	5/3	68	28.2	--	--
Dry Creek Flat	6350	5/1	0	0.0	0.0	0.0*
Emigrant Summit	7700	4/26	56	20.2	17.9	--
Franklin Basin	8200	4/25	73	28.1	23.2	28.0*
Giveout	6850	4/29	16	6.4	--	--
Horseshoe Basin +	8000	5/3	68	28.2	--	--
Liberty Spring	8600	4/30	94	39.0	39.2	--
Little Beaver	7000	4/29	27	11.8	--	--
Montpelier Creek	6600	4/29	0	0.0	--	--
Oxford Mountain	6800	5/1	3	1.0	0.0	1.7*
Pebble Creek	6550	4/29	12	5.2	--	--
Slug Creek Divide	7225	4/26	38	16.1	--	--
Strawberry Creek	5800	4/29	0	0.0	0.0	1.7*
Strawberry-Mink Divide	6800	4/29	28	12.3	8.2	15.0*
Summit Springs	8500	4/30	0	0.0	--	--
Whiskey Flat	6900	4/29	6	2.5	--	--
Willow Flat	6100	4/26	T	T	0.0	3.0*

*Estimated 1943-57 average. (o) Forecast made by Gregory L. Pearson, SCS, Salt Lake City, Utah. (+) Aerial observation, water content estimated. (a) Assuming normal meteorological conditions. (b) Actual or estimated 1943-57 average. (c) Observed flow corrected for storage in Jackson Lake and Palisades Reservoir. (d) Observed flow corrected for storage in Jackson Lake, Palisades, Island Park, Grassy Lake, Henry's Lake and diversions between Heise and Blackfoot.

WATER SUPPLY OUTLOOK and SNOW SURVEYS UPPER SNAKE, HENRY'S FORK, TETON, CAMAS-BEAVER CREEK, LITTLE LOST, BIG LOST, UPPER SALMON WATERSHEDS IDAHO

as of

MAY 1, 1963

GENERAL SUMMARY

The outlook for streamflow improved considerably during the month of April as a result of heavy snowfall and good precipitation. While inflow forecasts were raised, they are still from 18% to 39% below normal. Snow cover at the high elevations increased in relation to normal during April. This is an unusual condition. Some snow courses had more snowfall this month than any other month this season. The major snow-melt has not started at the higher elevations although middle and low elevation snow has melted.

Soil moisture at the low and middle elevations increased during April although the soil is still well below water-holding capacity. At the high soil moisture sites very little change took place in April because the snow did not melt. The relatively dry soil conditions are expected to absorb an unusually high amount of water during the major snow-melt.

Snowfall at the low and middle elevations during April melted but produced very little streamflow. This can be explained by the dry soil and the cool temperatures which prevailed.

Reservoir-stored water on the main stem of the Snake is excellent and can be used to make up for deficiencies in streamflow. On the smaller rivers without adequate storage facilities, the water supply outlook is improved but shortages are forecast for late in the season.

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair", "Average" or "Excellent" and STREAMFLOW FORECASTS (1,000 Ac. Ft.) ^a

STREAM and/or FORECAST POINT	OUTLOOK	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE
Snake at Moran (Natural Flow) ^o	--	556	May-Sept.	881	63
Snake River nr. Heise ^c	Good	2550	May-Sept.	3718	69
Henry's Fork nr. Ashton ^d	Good	430	May-Sept.	526	82
nr. Rexburg ^e		860	May-Sept.	1164	74
Teton River nr. St. Anthony	Fair	235	May-Sept.	376	63
Big Lost River at Howell Ranch	Fair	125	May-Sept.	185	68
		88	May-June	125	70
Big Lost River nr. Mackay ^f	Fair	105	May-Sept.	156	66
Little Lost River nr. Howe	Poor	19	May-Sept.	31	61
Salmon River nr. Challis	Fair	660	May-Sept.	873	76
		570	May-July	754	76

Report Prepared by

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U.S. DEPARTMENT OF AGRICULTURE --- SOIL CONSERVATION SERVICE

P.O. BOX 1247, BOISE, IDAHO

SOIL MOISTURE

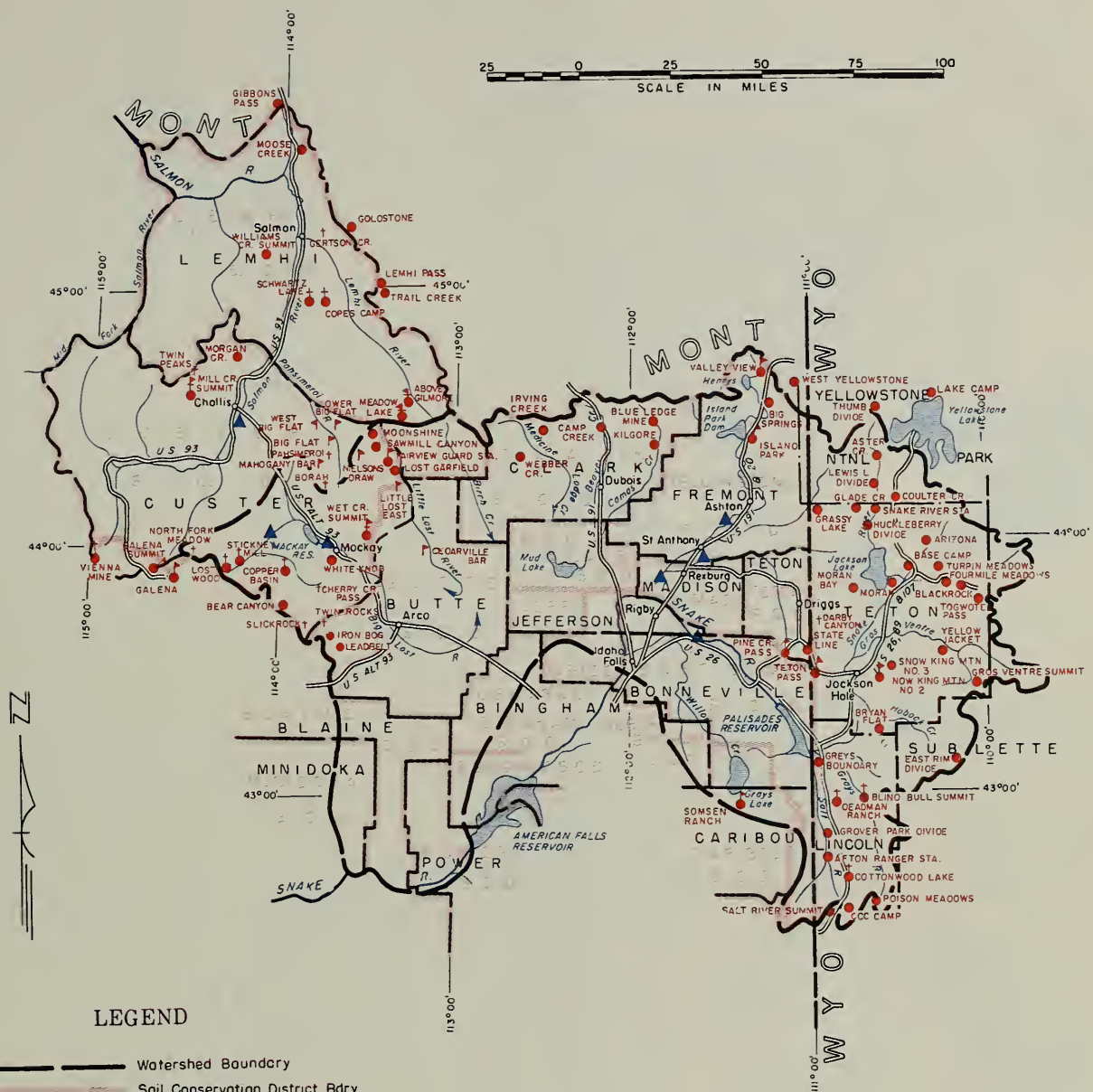
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
		DEPTH	* CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
Bell Mountain Bar	6640	18	3.6	4/25	1.2	1.3	--
Big Flat	7050	18	3.6	4/25	1.2	1.2	--
Cedarville Bar	5400	18	3.0	4/25	0.9	1.1	--
Fairview Guard Station	5850	42	7.6	4/25	7.3	7.3	--
Island Park	6315	42	9.9	4/29	6.7	--	--
Mill Creek Summit	8870	48	8.4	4/29	2.7	--	--
Nielson's Draw	6400	18	3.3	4/25	1.1	1.1	--
Pine Creek Pass	6750	48	13.3	4/26	5.6	--	--
State Line	6400	48	14.8	4/26	6.0	--	--
Teton Pass	8500	48	10.5	4/26	6.5	--	--
Valley View	6500	48	13.3	4/29	4.1	--	--
West Big Flat	6550	18	3.2	4/25	1.1	1.0	--
Wet Creek Summit	8175	48	17.1	4/30	7.7	--	--
*Total soil moisture. Not comparable to last year's published data.							

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Above Gilmore +	8200	4/29	35	12.0	--	--
Big Springs	6500	4/29	29	10.5	--	--
Copes Camp +	7500	4/29	24	8.2	--	--
Darby Canyon + Wyo.	8250	4/26	60	20.3	14.5	--
Galena	7500	4/30	39	14.2	7.8	14.0*
Galena Summit	8795	4/30	65	23.6	19.5	24.5*
Island Park	6315	4/29	23	8.1	--	--
Mill Creek Summit	8870	4/29	59	20.2	--	--
Morgan Creek	7580	4/28	39	11.9	--	--
Pahsimeroi +	7600	4/29	0	0.0	--	--
Pine Creek Pass	6750	4/26	32	12.8	5.0	--
Schwartz Lake +	8500	4/29	48	16.4	--	--
State Line	6400	4/26	22	9.2	0.0	8.6*
Teton Pass Wyo.	8500	4/26	88	29.8	38.5	41.8*
Twin Peaks +	9190	4/29	68	23.3	--	--
Valley View	6500	4/29	34	11.3	--	--
Vienna Mine +	8900	4/30	86	31.2	32.9	36.6*
West Yellowstone Mont.	6700	4/29	12	4.6	5.0	5.6
Wet Creek Summit	7800	4/30	18	4.8	--	--
Williams Creek Summit	7800	4/30	47	15.0	--	--

*Estimated 1943-57 average. (+) Aerial observation, water content estimated. (a) Assuming normal meteorological conditions. (b) Actual or estimated 1943-57 average. (c) Observed flow corrected for storage in Jackson Lake and Palisades Reservoir. (d) Observed flow corrected for storage in Island Park Reservoir and Henry's Lake. (e) Observed flow corrected for storage in Island Park Reservoir, Henry's Lake, Grassy Lake, and diversions between Ashton and Rexburg. (f) Observed flow corrected for storage in Mackay Reservoir and diversion in Sharp Ditch. (**) 1944-1960 average.

UPPER SNAKE, HENRY'S FORK, TETON, CAMAS - BEAVER CREEK, LITTLE LOST, BIG LOST, UPPER SALMON WATERSHEDS



LEGEND

- Watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- ▲ Forecast Point
- Snow Course
- † Aerial Snow Depth Gage
- ▶ Soil Moisture Station

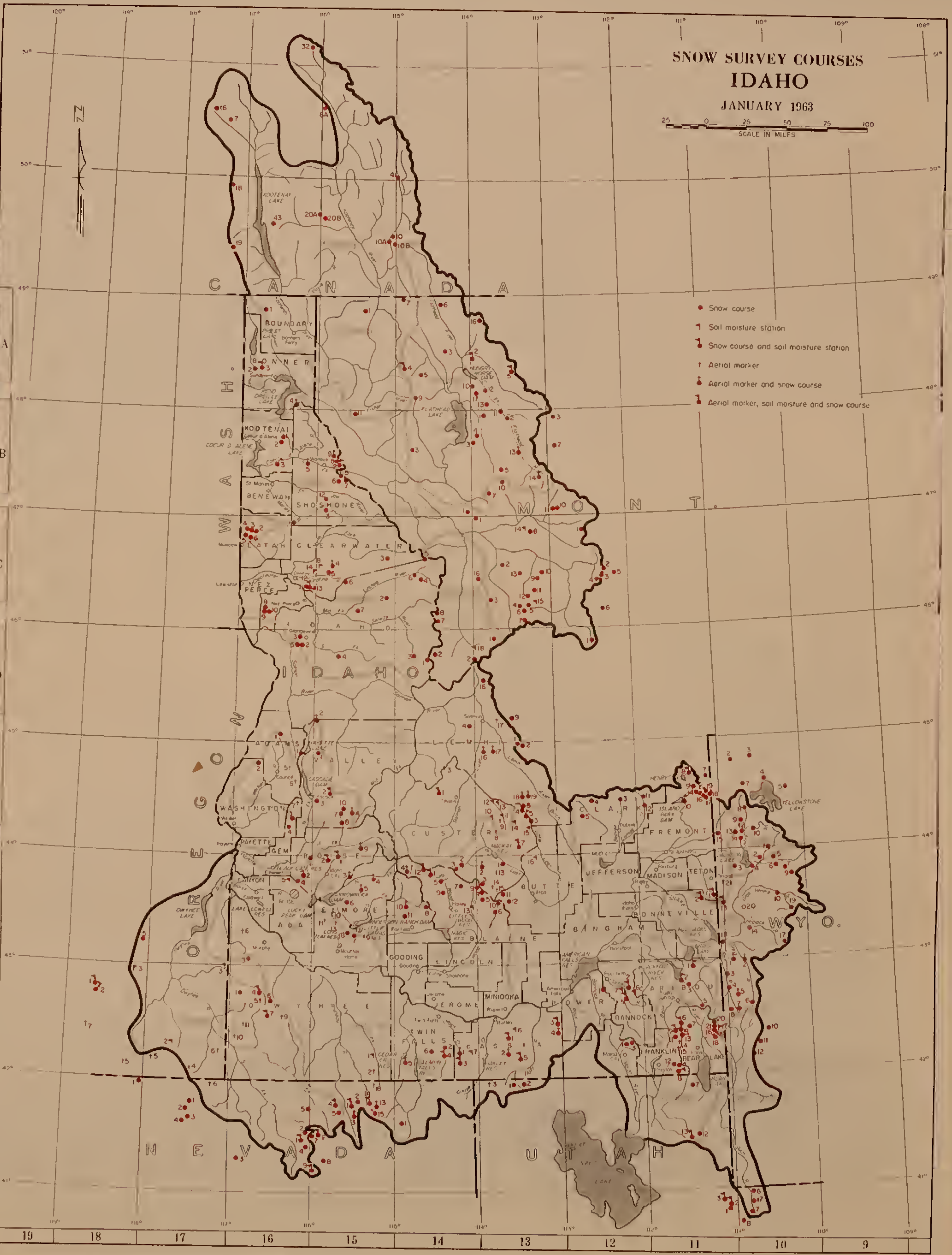
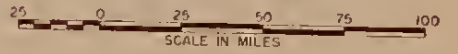
RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943 - 57 AVERAGE
Jackson Lake	847.0	631.3	250.9	503.3
Palisades	1200.0	1191.0	985.2	--
American Falls	1700.0	1732.8	1700.0	1614.9
Island Park	127.0	133.4	127.4	127.4
Grassy Lake	15.2	12.5	10.0	13.4
Mackay	44.2	37.8	29.4	36.0



SNOW SURVEY COURSES IDAHO

JANUARY 1963



- Snow course
- 1 Soil moisture station
- 1 Snow course and soil moisture station
- † Aerial marker
- Aerial marker and snow course
- 1 Aerial marker, soil moisture and snow course

Index to IDAHO SNOW COURSES

NO.	STATE	NAME	SEC.	TWP.	REG.	ELEV.	NO.	STATE	NAME	SEC.	TWP.	REG.	ELEV.	NO.	STATE	NAME	SEC.	TWP.	REG.	ELEV.	NO.	STATE	NAME	SEC.	TWP.	REG.	ELEV.
KOOTENAI RIVER																											
15511	M	Barce Creek	36	26N	31W	5500	10E3	WY	Canyon	42°44'	110°30'	7750	14F3	I	Bear Canyon	26	5N	21E	8600	13E19A	I	Above Gilmore	13	13N	26E	8200	
15414	M	Brush Creek	13	20N	26W	5000	10G7	WY	COO Camp	42°44'	110°30'	7500	13F13a	I	Cherry Creek Pass	7	5N	23E	8900	13E11a	I	Big Flat	25	11N	23E	7950	
16	BC	Ferguson	50°40'		117°20'	7900	10G5A	WY	Cottonwood Lake	25	31N	118W	7500	13F2A	I	Copper Basin	24	6N	21E	8000	13F8	I	Borah	21	10N	23E	8250
10	BC	Fernie	49°31'		115°01'	3500	10E10	WY	Coulter Creek	42°09'	110°33'	7600	13F11	I	Iron Bog	23	4N	22E	7650	13D7	I	Chapman Creek	16	29N	2E	4215	
3	BC	Gerrard	50°33'		117°17'	6000	10G1A	WY	Deadman Ranch	26	34N	116W	6534	13F12	I	Leadbelt	34	4N	23E	6800	13D17A	I	Copas Camp	36	18N	22E	7500
13	BC	Gray Creek	49°37'		116°41'	5100	10F17	WY	East Rio Divide	32	37N	111W	7950	14F14A	I	Lost Wood Divide	19	6N	19E	8750	13D17a	I	Cartoon Creek	22	22N	23E	8750
225	BC	Kimblerley	49°41'		115°59'	3800	10F6	WY	Four Mile Meadows	35	45N	112W	7770	14F15A	I	North Fork Meadow	20	7N	18E	8150	13D17a	I	Gold Stone	11	23	14W	8100
32	BC	Marble Canyon	51°12'		116°03'	5000	10E13	WY	Glade Creek	12	48N	116W	7300	14F16A	I	Stickney Mill	9	6N	19E	7500	13E11	I	Leahy Pass	9	10E	15W	7400
105	BC	Morrissey Ridge	49°22'		115°03'	6100	10F18	WY	Greys Boundary	33	40N	111W	8750	14F2A	I	Stickney Mill	9	6N	19E	7500	13E13a	I	Lower Big Flat	31	12N	24E	6900
19	BC	Neison	49°25'		115°03'	3050	10F19	WY	Gros Ventre Summit	36	40N	111W	8750	13F15a	I	Twin Rocks	22	4N	22E	8100	13E10a	I	Mahogany Bar	10	10N	23E	7900
10A	BC	New Farmie	49°30'		115°03'	4100	10G3	WY	Grover Park Divide	77	33N	118W	7500	13F15a	I	Twin Rocks	22	4N	22E	8100	13E18A	I	Meadow Lake	24	13N	26E	9100
1541	N	Red Mountain	4	36N	29W	6000	10E12	WY	Huckleberry Divide	32	48N	115W	7300	13F1	I	White Knob	25	7N	23E	7700	14E18A	I	Mill Creek Summit	8	13N	17E	9800
18	BC	Sandton	49°43'		115°11'	3500	10E4	WY	Lake Camp	42°34'	110°24'	7850	14F8A	I	Dollar Hide Summit	16	3N	15E	8620	13D16	I	Moore Creek	22 & 26	17N	21E	6200	
84	BC	Stinchair Pass	50°10'		115°58'	4500	10E9	WY	Lewis Lake Divide	42°13'	110°40'	7900	14F1M	I	Gelena	3	6N	15E	7300	13F7a	I	Pahsimeroi	7	10N	24E	7600	
1641	I	Smith Creek	29	64N	7W	4800	10F4	WY	Noran	8°17'	110°42'	7500	14F12M	I	Gelena Summit	33	7N	15E	8795	13E16A	I	Schwartz Lake	34	18N	22E	8500	
20A	BC	Sullivan Mine	49°43'		116°03'	5100	10F3	WY	Moran Bay	14	45N	116W	6800	14F5	I	Graham Ranch	10	5N	17E	6200	13E2	M	Trail Creek	15	10E	15W	7090
41	BC	Upper Elk River	50°01'		114°56'	4400	10E2	WY	Morris Basin	44°44'	110°42'	7500	14F7	I	Maecot Ridge	8	4N	20E	7900	14E3a	I	Twin Peaks	28	15N	17E	9150	
14A	M	Wesell Divide	8	37N	24W	5450	10G6	WY	Polson Meadows	29	30N	116W	8500	14F9	I	Mount Baldy	26	4N	17E	9000	14F4A	I	Vienna Mine	32	6N	14E	8900
PRIEST RIVER																											
1642	I	Benton Meadow	27	55N	4W	7344	10E10	WY	Salt River Summit	32	29N	118W	7900	14F11	I	Soldier Ranger Station	19	2N	14E	6100	13E17a	I	West Big Flat	35	12N	23E	6550
1643M	I	Benton Spring	30	58W	7W	4900	10E10	WY	Snake River Station	9	48W	115W	6780	14F11	I	Soldier Ranger Station	19	2N	14E	6100	14E5	I	Whitbird Summit	17	24N	2E	4790
PEND OREILLE - CLARK FORK RIVER																											
13015	M	Black Pine	23	8N	15W	7100	10E10	WY	Snow King Mountain #3	4	40N	117W	7600	13F4M	I	Garfield Ranger Station	11	3N	21E	6554	14E4	I	Williams Creek Summit	34	21N	20E	7800
1205	M	Chesman Reservoir	2	9N	5W	6200	10E10	WY	Sylvan Pass	12	52N	120W	7500	13F10	I	Iron Mine Creek	32	3N	23E	6370	CLEARWATER RIVER						
12E10	M	Copper Creek	1	15N	9W	5700	10E10	WY	Thumb Divide	41°22'	110°35'	7500	13F5	I	Maldoom	25	3N	21E	6300	16011	I	Above Greer	14	33N	2E	1240	
12E11	M	Cotton Creek	2	15N	9W	6250	10E10	WY	Thumb Divide	41°22'	110°35'	7500	14F13a	I	Niggerhead	26	2W	20E	5450	16014a	I	Brown	4	38N	11E	3700	
12E12	M	Coyote Hill	12	18N	16W	4200	10E10	WY	Thumb Divide	41°22'	110°35'	7500	14F14a	I	Porcupine	30	4N	20E	8350	1507	I	Coolwater Mountain	32	33N	8E	6200	
1309	M	El Dorado Mine	23	8N	15W	7100	10E10	WY	Thumb Divide	41°22'	110°35'	7500	13F6	I	Teller Ranch	12	2W	22E	6000	1522	I	Fish Lake Airstrip	35	35N	11E	5000	
13011	M	Fred Burr Pass	12	6N	17W	8000	10E10	WY	Thumb Divide	41°22'	110°35'	7500	15F2A	I	Atlanta Summit	29	5N	10E	7500	1528a	I	Fohl	16	36N	5E	3450	
13E15a	M	Georgetown Lake	6	5N	13W	6450	10E10	WY	Thumb Divide	41°22'	110°35'	7500	15F2M	I	Bad Bear	35	7N	6E	5500	1609	I	Forest	1	32N	3W	4150	
13010	M	Gold Creek Lake	14	8N	12W	7200	10E10	WY	Thumb Divide	41°22'	110°35'	7500	15F7	I	Bennett Mountain	7	2S	9E	6650	1583	I	Forty-nine Meadows	6	43N	5E	5000	
1501	M	Headon Pass	9	12N	27W	6200	10E10	WY	Thumb Divide	41°22'	110°35'	7500	14F4	I	Bogus Basin Road	32	5N	3E	5960	16013	I	Greer Summit	13	35N	2E	3000	
1304	M	Interward	6	5N	17W	6450	10E10	WY	Thumb Divide	41°22'	110°35'	7500	14F5a	I	Bogus Basin Road	36	5N	2E	4830	1406	I	Hamlock Butte	12	36N	4E	5500	
1308	M	Lubrecht Forest	11	13N	11W	4240	10E10	WY	Thumb Divide	41°22'	110°35'	7500	15F9a	I	Camas Creek Divide	11	2S	9E	5720	14D3	I	Kit Carson Pasture	4	29N	16E	4700	
13014a	M	Lubrecht Forest	11	13N	11W	4240	10E10	WY	Thumb Divide	41°22'	110°35'	7500	14F10A	I	Couch Summit	9	2W	14E	6950	14C5	M	Loi Pass	11	10N	24W	5200	
13E7	M	North Fork Jocko	3	17N	17W	6130	10E10	WY	Thumb Divide	41°22'	110°35'	7500	14F10a	I	Denskin	17	1N	7E	5650	1608	I	McDann	25	33N	3W	4300	
12E1	M	Pipestone Pass	10	1N	7W	7200	10E10	WY	Thumb Divide	41°22'	110°35'	7500	14F1	I	Deadman Gulch	24	7N	3E	6500	14C12M	I	Midway	14	35N	2E	2200	
13012	M	Red Lion	27	6N	13W	7100	10E10	WY	Thumb Divide	41°22'	110°35'	7500	15F8	I	Dixie Hill	13	2S	8E	5230	14D1	M	Nasperce Pass	25	1S	24W	6570	
1302	M	Slide Rock Mountain	35	10N	16W	7100	10E10	WY	Thumb Divide	41°22'	110°35'	7500	15E4	I	Jackson Peak	7	8W	4E	7000	15F4	I	Orogrande Mountain	24	27N	6E	7300	
1305	M	Southern Cross	9	5N	13W	6500	10E10	WY	Thumb Divide	41°22'	110°35'	7500	15F12a	I	Little Camas Flat	21	1S	9E	4750	1505	I	Pierce Ranger Station	2	36N	1E	3170	
1301	M	Stemple Pass	16	13N	7W	6900	10E10	WY	Thumb Divide	41°22'	110°35'	7500															

Agencies Assisting with Snow Surveys , etc.

GOVERNMENT AGENCIES

Canada:

Department of Lands, Forests, and
Water Resources, British Columbia
Department of Resources and Development,
Water Resources Division

States:

Idaho State Reclamation Engineer
and Corps of State Watermasters
State of Idaho Department of Fish and
Game
University of Idaho
Idaho State College
Montana Agricultural Experiment Station
Montana State Water Conservation Board
Nevada Cooperative Snow Surveys
Oregon Agricultural Experiment Station
Oregon State Engineer and Corps of
State Watermasters
Utah Cooperative Snow Surveys
Wyoming Cooperative Snow Surveys

Federal:

U. S. Army Engineers

U. S. Department of Agriculture
Forest Service
Agricultural Research Service

U. S. Department of Commerce
Weather Bureau

U. S. Department of the Interior
Bonneville Power Administration
Bureau of Reclamation
Fish and Wildlife Service
Geological Survey
Indian Service
National Park Service
Bureau of Land Management

PUBLIC UTILITIES

The Montana Power Company
Washington Water Power Company
Idaho Power Company
Utah Power and Light Company

ORGANIZED PUBLIC AGENCIES

Big Lost River Irrigation District
Boise Project Board of Control
Little Wood River Irrigation District
Jordan Valley Irrigation District
Salmon Falls Creek Irrigation Company
Twin Falls Soil Conservation District
Twin Lakes Irrigation Company
Big Wood Irrigation Company
Owyhee Project - North & South Board of Control

PRIVATE CORPORATIONS

Amalgamated Sugar Company

*Other organizations and individuals furnish valuable information for
snow survey reports. Their cooperation is gratefully acknowledged.*

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